REMARKS

Claims 1-10, 15-17, and 19 stand rejected under the judicial doctrine of obviousness-type double patenting over U.S. Patent No. 6,985,519 (Barnes) in view of Applied Cryptography (Schneier). A terminal disclaimer is included herewith. Applicants respectfully request the obviousness-type double patenting rejection be withdrawn.

Claims 1-14 and 19 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,784,633 (Petty) in view of Schneier. Claims 15-18 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,953,324 (Adachi) in view of Schneier. The Examiner's rejections are respectfully traversed.

Independent claims 1, 9, 15, and 19 set forth, among other things, <u>receiving unencrypted control codes and encrypted user data</u> over a communications channel and transmitting an upstream data signal over the communications channel based on the control codes.

The Office Action asserts that the combination of Petty and Schneier teaches these features. To the contrary, Petty does not teach receive encrypted user data and unencrypted control codes over the same channel.

First, the Office Action does not specify which elements of Petty are considered to be the physical layer hardware unit and which elements are considered to equate to the processor implementing the software driver and protocol layer. Petty discloses data terminal equipment (DTE) 14 and data circuit-terminating equipment (DTC) 16. Generally, the DTE 14 may be viewed as a mobile device or computer, while the DTC 16 may be seen as a cellular modem for communicating data over a wireless channel to a remote DTC-DTE pair.

The description of Petty makes it clear that the DCE 16 performs the protocol processing functions. Therefore it is assumed that the communications circuitry 52 of the DCE 16 allegedly

corresponds to the PHY hardware unit and the processor 46 of the DCE 16 allegedly corresponds to the processing unit.

Second, Petty is completely silent regarding the use of a software driver implementing a protocol layer. A driver is employed by a general purpose processing device and provides a link between the processing device and the controlled hardware. The physical layer hardware configures the transmission parameters independent of the software driver, which receives and decrypts the user data in a protocol layer.

In Petty, the DTC 16 is a dedicated communication hardware unit. Such a dedicated unit would not employ a software driver as it is defined by those of ordinary skill in the art, because the processor is dedicated to the communication tasks, and is not a general purpose processor. Petty mentions that software executing on the main processor 28 of the DTE 14 may monitor and/or control the communication configuration of the DTE 16. However, as the protocol functions are implemented in the DTC 16, the general purpose processor 28 does not implement the protocol layer as set forth in the claimed subject matter.

Third, Petty teaches sending control information from the DTE 14 to its associated DTC 16 for configuring the communication channel to the remote DTC. Hence, the control codes are sent by the DTE to the DTC over an internal bus, not over the communication channel used to couple the local party to the remote party (*i.e.*, the channel between interfacing DTCs). As made clear in Figure 1 of Petty, only user data is exchanged over the communication channel 22 using the cellular network 12. Moreover, the processing unit 46 of the DCE 16 receives the control codes, not the communications circuitry 52 (*i.e.*, the physical layer hardware unit). The processing unit 46 configures the communications circuitry 52.

Schneier fails to correct the defects identified with respect to Petty. Schneier is simply a general treatise on encryption. Neither Schneier nor Petty teaches or suggests providing encrypted user data and unencrypted control codes.

For these reasons, claims 1-14 and 19 are allowable over Petty and Schneier. Applicants respectfully request the rejection of these claims be withdrawn.

The combination of Adachi and Schneier also fails to teach or suggest the claimed subject matter. Adachi teaches a CDMA system. Adachi is completely silent regarding the nature of the control codes and user data in terms of being encrypted or unencrypted. The Office Action interprets this silence as indicating that Adachi teaches using unencrypted control codes and user data. To the contrary, Adachi is silent because encryption is inherent in CDMA technology. In CDMA a plurality of users share the same frequency channel, but use a code division multiplexing scheme in which unique digital codes are assigned to each user. User data and control codes are both encoded using these unique digital codes, and therefore the user data and the control codes are encrypted. Hence, Adachi fails to teach or suggest the claimed subject matter, wherein encrypted user data and unencrypted control codes are received over a communications channel.

For these reasons, claims 15-18 are allowable over Adachi and Schneier. Applicants respectfully request the rejection of these claims be withdrawn.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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